REMARKS

Claims 1-3 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tretter et al. in view of Vivarelli. Applicants respectfully traverse the rejection.

It is clear from the examiner's comments that the examiner does not understand the basic difference between a neural network and a Bayesian network. Applicants will seek to clarify the difference between them so that the examiner may properly understand why the proposed combination is untenable.

As stated in paragraph six of the previously submitted declaration by inventor Luo, an artificial neural network is trained to perform computations on a particular set of input information and cannot perform its computations when any part of the data from the particular set of input information is missing. The examiner mistakenly refers to the artificial neural network of Vivarelli as a "Bayesian neural network", when in fact the Vivarelli network is simply an artificial neural network as explained in paragraph five of the declaration. As will be understood by those skilled in the art, a neural network needs to be trained in order to properly function. Vivarelli discusses the application of Bayesian training to the neural network, but the network itself is still a neural network that requires all inputs be present as opposed to a Bayesian network that can function with some information missing.

The examiner actually admits that the Vivarelli network is not a Bayesian neural network by stating "[t]he Examiner acknowledges that the Vivarelli reference does not specifically suggest that Vivarelli's Bayesian neural network is configured to produce a result with evidence missing" (Office Action, page 3, lines 7-8). If, as acknowledged by the examiner, the Vivarelli network cannot produce an output with evidence missing, then the Vivarelli network is NOT a Bayesian network.

The examiner then goes on to state "[h]owever the Examiner disagrees and does believe that Tretter suggests a neural network configured to produce a final estimate of image class with evidence missing and therefore the Vivarelli reference is only used as a secondary reference to further suggest that Tretter's neural network may be a Bayesian neural network." This statement is simply illogical. If Tretter et al. disclosed a Bayesian network, i.e one capable of producing an output with evidence missing as proposed by the examiner, then

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why would the examiner need to cite a secondary reference to "further suggest" that Tretter et al.'s neural network "may" be a Bayesian network?

Tretter et al. either discloses a Bayesian network or it does not disclose a Bayesian network. Clearly, the network disclosed in Tretter et al. is NOT a Bayesian network as Tretter et al. specifically states that the network disclosed in Fig. 5 is a neural network, and one of ordinary skill in the art would readily recognize from Fig. 5 and the accompanying description of the operation of Tretter et al. that it requires all inputs to be present to function. Support for applicant's position is provided by the declaration.

The examiner's further attempt to show that Tretter et al. is a Bayesian network is also illogical. The examiner states that Tretter et al. discloses the possibility of using at least nine types of different metadata. The examiner then states that since the illustrated embodiment of Tretter et al. shows a neural network that utilizes only six nodes, at least three meta-data tags would not be addressed and therefore the neural network would be "missing" at least three meta-data tag evidence.

Such reasoning serves to amplify the examiner's lack of understanding of the operation of a Bayesian network. Clearly, what Tretter et al. is stating is that many types of meta-data tags may be employed, and one would construct a network to have a certain number of inputs (six in the illustrated example) to process a pre-determined selected set of meta-data tags from all possible meta-data tags. This, however, does not mean that evidence is missing as set forth in the claim at issue. In Tretter et al., the selected set of pre-determined types of meta-data tags must all be present in order for the neural network to produce a result. In contrast, a Bayesian network, which is set up to function based on an input set of pre-determined evidence, can still produce a result even if all of the pre-determined evidence is not present. This is the basic difference between neural network as disclosed in both of the cited references and a Bayesian network set forth in the claims at issue.

Finally, applicants would like to place on the record the examiner's mischaracterization of inventor Luo's statements in the declaration. The examiner states "Jiebo Luo starts by stating that the Vivarelli Bayesian neural network cannot perform computations when any part of the particular set of input information is missing" (emphasis added). The examiner has incorrectly

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characterized the inventor's statement. The inventor never refers to the network of Vivarelli as being a Bayesian neural network, but instead, first notes that the network in Vivarelli is NOT a Bayesian neural network. The inventor then goes on to state the difference between an artificial neural network and a Bayesian neural network. There is no inconsistency in the inventor's statements.

The examiner further states "Therefore, the inventor clearly admits that the amended limitation is conventional in that a Bayesian network may perform with evidence missing". Yes...and the point is? Yes, a Bayesian network is conventional. Applicants, however, employ the use of a Bayesian network (which in itself is conventional) in a new application to solve a long standing problem in the art and achieve superior results.

Applicants are not arguing that a Bayesian network is new, applicants are arguing that neither Vivarelli nor Tretter et al. disclose or suggest the use of a Bayesian network as claimed. Accordingly, the combination of references - - even if proper- - cannot yield the claimed invention. Further, no one has disclosed or suggested using a Bayesian network to solve the problem addressed by the present invention. Thus, all of the claims in this case define novel and unobvious subject matter.
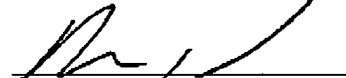
Finally, as previously noted by applicants, the examiner may be tempted to take the position that, if a Bayesian network is conventional, it would be obvious to modify the system of Tretter et al. to utilize a Bayesian network. Tretter et al., however, fails to acknowledge the problem of classifying images when different image capture devices record different metadata. Without acknowledging this problem -or any other- that would lead one to consider the use of Bayesian network to classify images as claimed, such a proposed modification of Tretter et al. can only be based on hindsight knowledge of applicants' own invention, which cannot form the basis for finding the claims prima facie obvious under 35 U.S.C. §103(a).

Claims 6 and 7 also stand rejected under 35 U.S.C. §103(a) as being obvious in view of Tretter et al. and Vivarelli and secondary references Schroder et al. and Cooper respectively. Applicants submit the secondary references fail to overcome the deficiencies of the primary references discussed above. Accordingly, claims 6 and 7 are also believed to be allowable for the same reasons set for the with respect to claims 1-3 and 5.

The present amendment is being submitted by applicants' local counsel. It is respectfully requested that the examiner contact the undersigned to arrange a personal interview should the examiner consider maintaining the rejection. It is noted that the examiner does not have signatory authority. Applicants therefore request that the Supervisory Patent Examiner also be present for the interview so that a definitive decision can be made regarding the disposition of the application.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and the allowance of the present application.

Respectfully submitted,

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